

ABSTRACT OF THE DISCLOSURE

The present invention discloses a method of producing granulocyte-macrophage colony stimulating factor (GM-CSF) in a plant comprising, transforming the plant with a genetic construct comprising a regulatory region functional in the plant, operably associated with a GM-CSF coding sequence, or a fragment or a derivative thereof, operably associated with a transcriptional terminator, and expressing the GM-CSF. Also disclosed are transgenic plants, seeds and cells comprising GM-CSF coding sequences and plant optimized GM-CSF coding sequences.